Case letters

Extraosseous extension of multiple myeloma: A cutaneous herald to systemic disease

To the Editor: Cutaneous involvement of multiple myeloma is an extremely rare manifestation, typically presenting as an extraosseous extension to the skin.[1] Presentation of these cutaneous lesions occurs more often in late stage multiple myeloma with a high tumor burden.[2] A single-center retrospective study reported a 2.3% incidence of extramedullary and extraosseous tumor at the time of multiple myeloma diagnosis. Furthermore, cutaneous appearance and histopathology do not predict systemic disease and should alert the dermatologist to a need for further evaluation.[3] We report a case of multiple myeloma presenting as an extraosseous extension mimicking a cutaneous mass. A previously healthy 62-year-old woman presented with an asymptomatic left forehead mass of 1 month's duration. On examination, the 3.5- to 4-cm mass was nontender and nonfixed, and appeared subcutaneous. Two days later, the patient presented for excision of the left forehead mass. Blunt dissection uncovered a deeper subfrontalis grayish mass that was slightly firm and 3.5 to 4 cm in diameter. Careful dissection at the periosteal plane of the left frontal bone demonstrated a ragged 1.5-cm outer table bony defect. Biopsy specimen of the mass was obtained and the wound was closed. Because of the potential for intracranial involvement, the patient was sent for immediate magnetic resonance imaging (MRI) of the left frontal soft tissue bone and brain (Fig 1). The MRI scan revealed a large expansile enhancing mass anteriorly in the left frontal bone and several smaller enhancing masses in the calvarium. Pathology of the biopsy specimen revealed a monomorphous proliferation of medium to large neoplastic-appearing plasma cells, strongly positive for CD138, CD38, and lambda light chain, but negative for kappa light chain (Fig 2). Lambda-positive cutaneous plasmacytoma was diagnosed and the patient was referred to an oncologist for further workup. Bone marrow biopsy demonstrated a 50% cellular bone marrow comprised of approximately 25% plasma cells, all with a 46XX karyotype. Subsequent computed tomography and positron emission tomography scan showed osseous lesions in the axial and appendicular skeletons, lytic lesions in the skull and distal right humerus, multiple rib fractures, and scattered lucent lesions in the bilateral third ribs, left fifth rib, right seventh rib, and left clavicle. Lambda light chain–restricted multiple myeloma was ultimately diagnosed. She underwent initial radiotherapy to the forehead, followed by aggressive induction chemotherapy with lenalidomide and dexamethasone. Eight months after her initial dermatologic presentation, the patient underwent stem cell collection followed by high-dose melphalan autologous stem cell transplantation. She recovered all cell counts following the transplant and was maintained on prophylactic antimicrobials per protocol. A 15-month course of

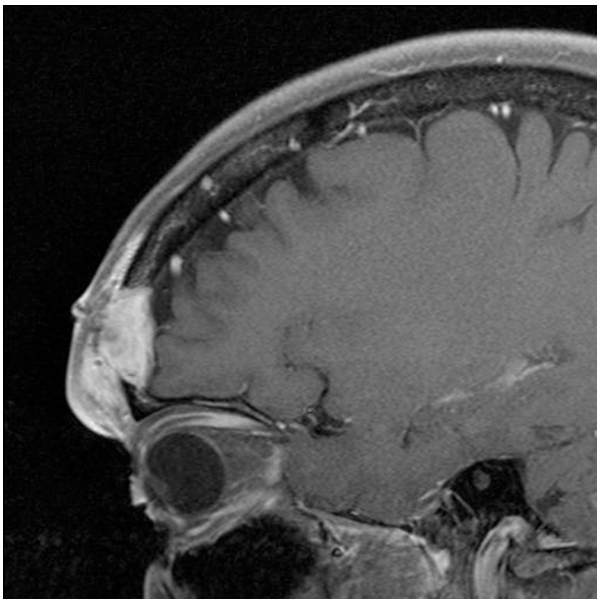

Fig 1. Plasmacytoma. Sagittal T1-weighted magnetic resonance imaging scan demonstrating tumor invasion through left frontal bone.

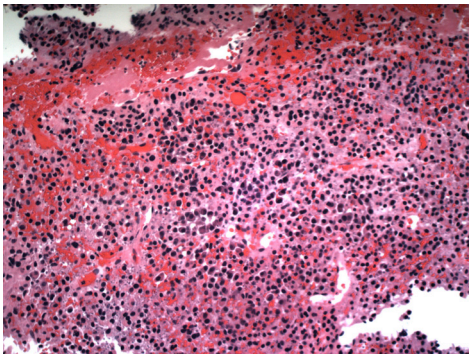

Fig 2. Diffuse infiltration of plasma cells with characteristic round oval cells, eccentric nuclei, and moderate cytoplasm. (Hematoxylin-eosin stain.)

lenalidomide maintenance therapy was initiated in addition to zoledronic acid at tri-monthly intervals for the prevention of skeletal fractures. At her 3-month bone marrow biopsy and 1-year follow-up following stem cell transplantation, the patient continued to be in a stringent complete first response. She continues to tolerate maintenance treatment well and follows up with her oncologist intermittently.

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Solar urticaria to visible light triggered by light-emitting diode therapy

To the Editor: Light Emitting Diodes (LEDs) are increasingly used for many conditions, including wound healing and treatment of photoaging skin. They are said to be a safe procedure without side effects. We report a case of solar urticaria to visible light induced by LED therapy.

A 55-year-old woman with no history of urticarial rash following previous sun exposures was treated with a 415-nm LED for mild rosacea. During the LED exposure an intense urticarial reaction of the face with burning sensation developed on her face necessitating discontinuation of the session. There were no concomitant respiratory or digestive symptoms. Following this session, she reported a photosensitivity that impaired her quality of life, and she was referred to our department. Results of routine laboratory blood studies were normal, including antinuclear antibodies and porphyrin levels. The patient was phototested in the solar UV domain using a solar simulator (Oriel Newport, model 92292, high-pressure Xenon lamp) with a WG320/1.6 mm and UG11/1 mm filter combination (no visible light emitted). Phototests in UVB and UVA spectrum (exposure to six increasing doses, from 9.2 mJ/cm^2 to 28.2 mJ/cm^2) and UVA spectrum alone (33 J/cm^2) did not induce any abnormal reaction. On the contrary, explorations using total visible light (ultra-high-pressure mercury lamp, 126 J/cm^2) as well as blue light (wavelength 415 nm, 42.3 J/cm^2) induced an erythematous and edematous reaction at the end of exposure, with itching and burning sensations (Fig 1). Thus, phototesting confirmed the diagnosis of solar urticaria to visible light induced by blue LED therapy. Antihistamines combined with hydroxychloroquine and use of a broad-spectrum sunscreen did not improve the solar urticaria. A desensitization phototherapy, according to a well-defined protocol,[1] allowed a marked regression of the symptoms.

Fig 1. Phototesting in a patient with solar urticaria following light-emitting diode therapy. Erythema and edema were observed 5 minutes after exposure to visible light (*left*) and 415 nm blue light (*right*).

Initially used for their healing properties, LEDs have many well demonstrated biological effects in vitro that suggest they have potential therapeutic value. However, it is difficult to extrapolate these in vitro data to clinical practice because many factors must be taken into consideration, such as wavelength, irradiance, and the interaction with whole human skin.[2] Unfortunately, except in cases of wound healing, clinical studies of good methodology are lacking.[3,4] Despite the absence of clinical evidence, use of LEDs is becoming increasingly popular. Their safety profile is described as excellent in the literature; only cautions concerning epileptic and photophobic